

FIRE PREVENTION STANDARDS

Subject: F/S Undergrnd Piping Installation Number: 444.202 Date: Revised 11/19/01 Page 1 of 4

OBJECTIVE

To insure that underground supply piping serving fire hydrants and fire sprinkler systems are installed with uniformity and meet the requirements of NFPA 24 and the Sacramento Metropolitan Fire District.

This policy will apply to all private underground supply piping serving fire sprinkler systems and on site fire hydrants. Hydrants installed in a public right-of-way shall meet the requirements of the local water purveyor also.

All individuals and companies who propose to engage in the installation or alteration of private underground piping serving fire sprinkler systems or fire hydrants are subject to the requirements of this policy.

This policy outlines the procedures to be followed for the installation and testing of underground supply piping for fire sprinkler systems and fire hydrants.

PROCEDURE

- A. Underground piping shall be installed in accordance with approved plans prepared by a civil engineer or piping installation contractor. If not provided by the civil engineer the underground fire service installation contractor shall submit for review and approval a schematic drawing showing part for part installation arrangement of the underground appurtenances and a complete parts list with UL® listings for all parts prior to installation.
 - B. Approved piping is AWWA C900 class 150 or 200 and DPI-50 ductile iron. Galvanized pipe is not approved for underground supply piping. Ductile iron pipe shall be used within five (5') feet of any foundation.
 - C. Depth of bury for piping shall be a minimum of 36 inches under vehicular paving. Measurement is from the top of the pipe to grade.
 - D. Any buried rods, nuts, bolts, washers, clamps, and other restraining devices shall be cleaned and coated with a bituminous corrosion retarding material after installation prior to burial.
 - E. Underground piping shall be set in a bed of imported sand (or natural gravel, not over 1" diameter) a minimum of six inches deep below the pipe and have a minimum of 12 inches of sand (or gravel) cover done in 4" layers. Native backfill or crushed rock is prohibited for bedding or the initial 12" of cover. Under pavement backfill from 12" above the pipe to grade shall be class 2 aggregate base compacted to 95% relative compaction in 8" layers.
 - F. Testing: Is to be witnessed by SMFD personnel. A call for an appointment shall be made a minimum of 48 hours in advance.
 1. Hydrostatic testing shall be in accordance with NFPA 24 section 8-9.3.1. That is 200 psi water pressure for two hours with no pressure drop.
 2. Persons conducting tests shall have test ready prior to the time the inspector is due to arrive with the pressure up, pumps disconnected, gauges installed, and all air bled from the system.
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3. The test shall be completely hydrostatic (water pressure). Persons testing shall provide a means of relieving trapped air from the lines prior to pressurizing. This may be achieved with small valves installed on caps of all risers and plugs at the highest point of the piping. Other means may be necessary to remove all air.

Note: Pneumatic (air pressure) is not permitted.

4. Piping shall be center loaded for the test. However; all pipe joints shall be visible to the inspector. Testing of covered piping will not be permitted without special circumstances, controls and prior approval.

G. Flushing

1. All piping shall be flushed using a full pipe diameter discharge.
2. Piping shall be flushed until all foreign objects have been discharged and the water is clear.
3. Fire Department Connection lines shall also be flushed out the connection end.

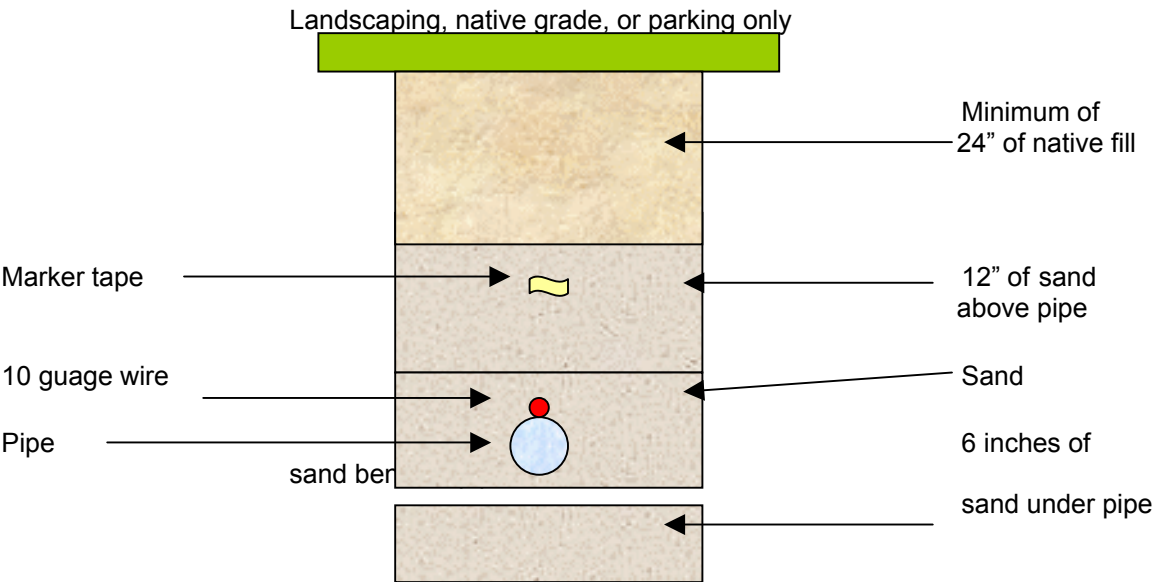
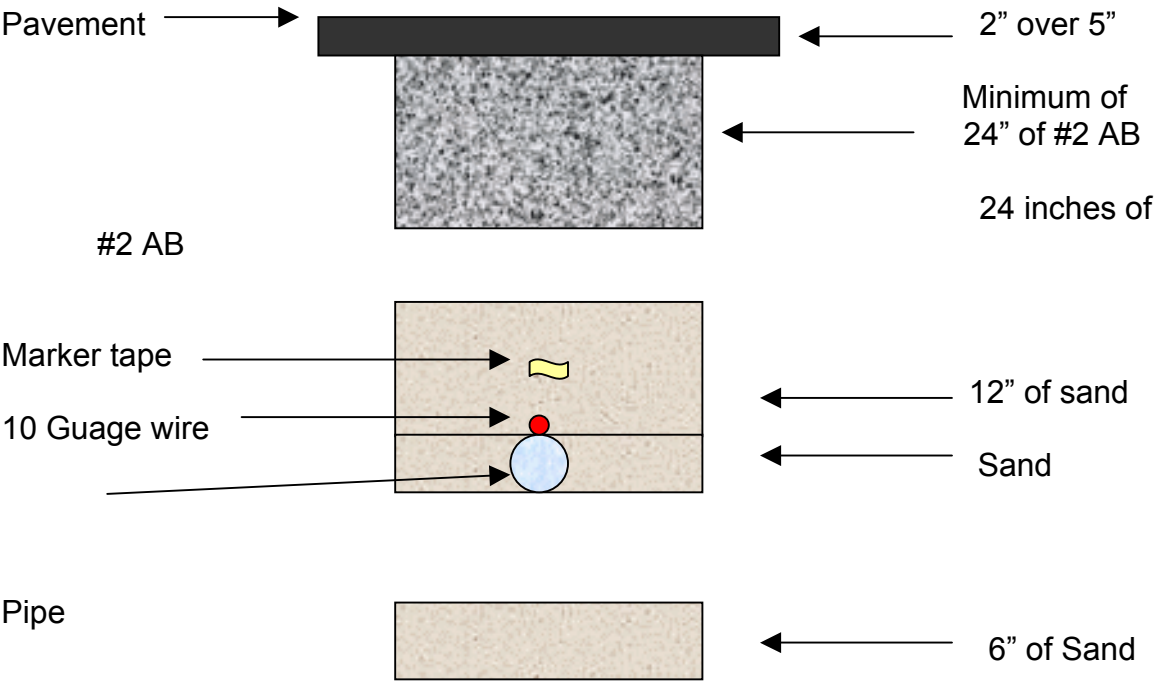
- H. The contractor shall provide certification to the Fire Inspector in the form of a certificate as shown in figure A-8-9.1 of NFPA 24.

- I. Conduit for tamper-monitoring wire shall be installed prior to burying of pipe.

Mike Dobson, Fire Marshal

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Contractor's Material and Test Certificate for Private Fire Service Mains

Upon completion of work, inspection and tests shall be made by the installing contractor and witnessed by an owner's representative in the presence of a fire district inspector. All defects shall be corrected and the system left in service before contractor's personnel finally leave the job.

This certificate shall be completed and signed by both representatives. Copies shall be prepared for the fire district, owners and contractor. It is understood the owner's representative's signature in no way prejudices any claim against contractor for faulty material, poor workmanship, or failure to comply with fire district's requirements or local ordinances.

Property Name: _____ Date: _____

Property Address: _____

Installation conforms to approved plans? ☐ Yes ☐ No
If not, attach as-built plans _____

Has the owner's representative in charge of fire equipment been instructed as to location of control valves and in the care and maintenance of this equipment? ☐ Yes ☐ No
If not, explain _____

Have copies of appropriate instructions and care and Maintenance charts been left on premises? ☐ Yes ☐ No
If not explain. _____

Pipe types and class? _____

Were all joints restrained in accordance with NFPA 24? ☐ Yes ☐ No
If not, explain _____

Were all restraining devices covered with bituminous material? ☐ Yes ☐ No

All new piping hydrostatically tested at _____ PSI _____ hours

Were joints covered? ☐ Yes ☐ No

Hydrant type: _____ Tested for operation? ☐ Yes ☐ No

All control valves left in open position? ☐ Yes ☐ No
If not, explain _____

How was flushing obtained? ☐ Fire Pump ☐ Public water ☐ Tank

Date left in service _____

Name of installing contractor _____

WITNESSES

For Property Owner (signed) _____ Title _____ Date _____

For Installing Contractor (signed) _____ Title _____ Date _____

Notes: _____